

## AMENDMENTS TO THE SPECIFICATION

### In the Specification

Please replace the paragraph beginning on page 13, line 1 with the following amended paragraph:

Figure 6 is a flowchart illustrating program execution processing according to one embodiment of the present invention. First, the executable version of the application program is started 605. While the executable is running, the process is sampled at a controlled interval 610. That is, profile data is collected. While the CPU is busy 615, execution of the application program and profile collection continues. When the CPU becomes idle 615, binary level profiles 620 and high level intermediate representation profiles are generated ~~[[620]]~~ 625.

Please replace the paragraph beginning on page 17, line 17 with the following amended paragraph:

Figure 13 is a flow chart illustrating annotation merging according to one embodiment of the present invention. First, a new action node is created 1305. The major ID from one of the previous action nodes of the instructions being merged is copied to the new action node 1310. A new action number is assigned to the new node 1315. Next, the previous actions pointer of the new node is set to a list of action nodes of the instructions being merged 1320. The new node is added to the next actions list of the previous nodes 1325 and the compiler phase in which the node was merged is marked 1330. Finally, the action is marked as MERGED 1335.

Please replace the paragraph beginning on page 18, line 3 with the following amended paragraph:

Figure 14 is a flowchart illustrating annotation branch inversion according to one embodiment of the present invention. First, a new action node is created 1405. The major ID from the action node of the branch being inverted is copied to the new action node [[1310]] 1410. A new action number is assigned to the new node [[1315]] 1415. Next, the previous actions pointer of the new node is set to the action node of the branch being inverted 1420 and the compiler phase in which the node was merged is marked 1425. Finally, the action is marked as BRANCH\_INVERTED [[1335]] 1430.